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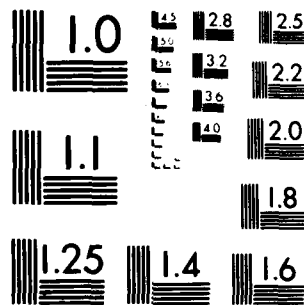
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DENTAL EMERGENCIES OCCURRING AMONG
U. S. ARMY RECRUITS

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The opinions contained herein are the private views of the authors and are not to be construed as official or as reflecting the views of the Department of the Army or the Department of the Defense.

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ABSTRACT:

A study was undertaken to determine the incidence of dental emergencies among 5,000 U.S. Army recruits during basic field training. A total of 1,294 recruits reported for dental sick call over a period of 6 months. The most frequently occurring conditions causing emergency visits were found to be caries, periapical abscesses, postoperative complications, pericoronitis, defective restorations, gingivitis, traumatic injuries, and mucosal ulcers.

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INTRODUCTION:

Studies have indicated that oral health, as measured by periodontal and oral hygiene indices, deteriorates significantly under conditions of military field training.^{1,2} In most situations, this problem does not interfere with the training exercise. However, when the condition of poor oral health results in an emergency dental visit, the soldier is lost to his unit and combat effectiveness may be jeopardized. A recent investigation³ indicated that 22 percent of all emergency health visits during a field training exercise were due to dental problems. In addition, 74 percent of those were judged to be preventable.

This study sought to identify the frequency and types of dental emergencies encountered among U.S. Army recruits at Fort Leonard Wood, Missouri. By combining this data with other epidemiological studies, those conditions which most often cause emergency problems can be targeted for timely prophylactic care.

MATERIALS & METHODS:

During a six-month period (Jan-June 1980) each recruit reporting for sick call at the troop dental clinic was examined and his chief complaint was recorded on an emergency roster. Diagnosis was established in a normal fashion with the assistance of radiographs and other aids, when necessary. In each case, appropriate treatment was performed for the specific chief complaint.

RESULTS:

Table I summarizes the distribution and frequency of 1,294 dental emergency visits during the 6-month period.

Dental Caries:

A moderately high incidence of carious lesions was noted. Most of these lesions were untreated and involved multiple surfaces of the teeth.

Periapical Abscess:

A surprisingly high rate of periapical abscesses was seen. The majority of these were a result of deep coronal caries.

Postoperative Complications:

Those recruits who reported for an emergency visit subsequent to prior dental treatment comprised 11.7 percent of the total sick call. Postoperative complaints as a result of either extraction or pulp therapy were among the majority of such cases.

Other Significant Findings:

A relatively high incidence of pericoronitis, due to third molar impactions, was noted. Other complaints such as defective fillings or recurrent caries, bleeding gums, painful ulcers, fractured teeth, and broken prostheses were also noted.

DISCUSSION:

Preventable dental disease continues to progress unchecked in many Army personnel. Without preventive measures, each recruit will suffer an average of 1.8 new cavities during a year of military service, accounting for almost 3 million new cavities annually.⁴ In this study, 46 percent of emergency visits were caries related (40.4 percent for caries and 6 percent for defective restorations/recurrent caries). This figure is comparable to a 1974 study of non-Vietnam,

Pacific-based, Navy-Marine personnel.⁵ One survey of a civilian population established that 40 percent of all dental emergencies were caries related.⁶

A recent study³ showed that during a 39-day field training exercise, 14.7 dental emergencies occurred for every 1,000 troops. This figure was used to predict 164 dental emergencies per 1,000 troops per year. An earlier study² reported that dental emergencies during field training exercises occurred at the rate of 216 per 1,000 troops per year. This investigation projected an incidence of 258.8 dental emergencies per 1,000 recruits. Our figures showed a somewhat higher incidence of dental emergencies, possibly due to the fact that many recruits have little or no previous dental care. However, the distribution of lesions found in this study were comparable to Payne and Posey's investigation.

The effect of dental emergencies can have a significant impact on Army personnel if dental services are not readily available. This observation has been emphasized in the literature from studies of dental care during field training,³ at strategic location assignments,^{5,7} in prisoners of war,^{8,9} and in combat situations.^{10,11}

Generally speaking, dental emergencies are seldom life-threatening, however, their effect can have a psychological impact and lead to morale problems. More importantly, they can result in a transient loss of manpower with reduction in the fighting strength.

Further epidemiological surveys are necessary to fully determine the impact of oral disease on the Army. Such studies will help

long-ranged planning for staffing, training and budgeting. The use of epidemiological data for problem identification and planning provides a potential for significant monetary and personnel savings. Such information can be used to reinforce the Dental Combat Effectiveness Program (DCEP) to lower the rate of emergency visits, thus enhancing combat effectiveness and reducing lost man-hours. Implementation of the findings from these programs can result in improved health for military personnel and will help avoid the chronic destruction of oral tissue.

SUMMARY:

A total of 1,294 recruits reported for dental sick call over a period of 6 months, an incidence of 26 percent. The frequency of dental emergencies was as follows:

- 1) Caries or recurrent caries - 40 percent.
- 2) Periapical abscess - 12.3 percent.
- 3) Gingival and periodontal pathology - 7.5 percent.
- 4) Pericoronitis - 7.1 percent.
- 5) Soft tissue trauma - 4.0 percent.
- 6) Fracture tooth (injury) - 2.08 percent.

TABLE 1: The distribution and frequency of 1,294 dental emergencies among 5,000 US Army recruits over a 6-month time period.

| <u>Diagnosis</u> | <u>Percent</u> | <u>Total</u> |
|---|----------------|--------------|
| 1. Caries | 40.41 | 523 |
| 2. Periapical abscess | 12.21 | 158 |
| 3. Postoperative complicaton | 11.74 | 152 |
| 4. Pericoronitis | 8.04 | 104 |
| 5. Defective restoration/ recurrent caries | 6.00 | 77 |
| 6. Acute gingivitis | 5.33 | 69 |
| 7. Soft tissue trauma | 5.25 | 68 |
| 8. Herpes/aphthae ulcers | 3.16 | 41 |
| 9. Fractured tooth | 2.55 | 33 |
| 10. ANUG | 2.08 | 27 |
| 11. Periodontitis | 1.23 | 16 |
| 12. Jaw fracture | 1.08 | 14 |
| 13. Broken prosthesis | .92 | 12 |
| TOTAL | 100 | 1294 |

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